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(54) **Low fogging thermoplastic elastomer composition and manufacturing method and use of same composition**

(57) This invention relates to a perfectly or partially crosslinked olefinic thermoplastic elastomer composition which comprises 10 to 90 parts by weight of a crystalline polyolefin (a), 90 to 10 parts by weight of an olefin-based copolymer rubber (b) (the total amount of the components (a) and (b) being 100 parts by weight) and 3 to 100 parts by weight of a paraffinic mineral oil softening agent (c) having an evaporation loss of 0.4% by weight or less at a condition of 200 °C, atmospheric pressure and 1 hour and having a kinetic viscosity (40 °C) of 50 to 250 cSt; an olefinic thermoplastic elastomer composition which is obtainable by subjecting a mixture including 40

to 85 parts by weight of an ethylene-based copolymer rubber (A), 60 to 15 parts by weight of an olefinic resin (B) and 45 parts by weight or less of a softening agent (C) [the total amount of the components (A), (B) and (C) being 100 parts by weight] to dynamic heat treatment in the presence of a crosslinking agent and which has a gloss value-of 80% or more and a haze value of 10% or less on glass plate when subjected to the fogging test at a condition of 100 °C and 3 hours according to the prescription of A method of DIN 75201; and a manufacturing method and use of the compositions.

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 196 39 865 A (SUMITOMO CHEMICAL CO) 3 April 1997 (1997-04-03) * the whole document * -----	1-7	INV. C08L23/00 C08L23/04 C08L23/16 C08J3/24
P,X	EP 1 033 226 A (SUMITOMO CHEMICAL CO) 6 September 2000 (2000-09-06) * the whole document * -----	1-7	
X	US 5 597 867 A (TSUJIMOTO MOTOYOSHI ET AL) 28 January 1997 (1997-01-28) * the whole document * -----	1-7	
X	EP 0 275 702 A (MITSUI PETROCHEMICAL IND) 27 July 1988 (1988-07-27) * the whole document * -----	1-7	
X	EP 0 286 409 A (MITSUI PETROCHEMICAL IND) 12 October 1988 (1988-10-12) * the whole document * -----	1-7	
			TECHNICAL FIELDS SEARCHED (IPC)
			C08L C08J
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 19 December 2007	Examiner BALMER, J
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 02 3792

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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19-12-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 19639865	A	03-04-1997	GB 2305666 A	16-04-1997
			JP 9087394 A	31-03-1997

EP 1033226	A	06-09-2000	DE 60010159 D1	03-06-2004
			DE 60010159 T2	20-01-2005
			KR 20000058127 A	25-09-2000
			US 6399709 B1	04-06-2002

US 5597867	A	28-01-1997	NONE	

EP 0275702	A	27-07-1988	AU 607955 B2	21-03-1991
			AU 8300287 A	30-06-1988
			CA 1327733 C	15-03-1994
			CN 87108200 A	03-08-1988
			DE 3744066 A1	07-07-1988
			NZ 223069 A	26-10-1990
			US 4889762 A	26-12-1989

EP 0286409	A	12-10-1988	CA 1331556 C	23-08-1994
			CN 88102061 A	26-10-1988
			DE 3881936 D1	29-07-1993
			DE 3881936 T2	30-09-1993
			JP 2582771 B2	19-02-1997
			JP 63251233 A	18-10-1988
			US 5061572 A	29-10-1991
